WHAT IS CLAIMED IS:

1. A method for processing semiconductor wafers, comprising:

processing a semiconductor wafer in a processing chamber having upper and lower chambers, wherein the upper chamber houses the semiconductor wafer and the lower chamber comprises processing equipment operable to process the semiconductor wafer;

decoupling the upper chamber from the lower chamber;

cleaning the upper chamber;

determining, while decoupled, that a leak rate and a particle count for the upper chamber meets predetermined criteria; and

coupling the upper chamber to the lower chamber.

2. The method of Claim 1, further comprising placing the upper chamber under a vacuum.

3. The method of Claim 1, wherein the leak rate is a maximum of one millitorr per minute.

4. The method of Claim 1, wherein the particle count is a maximum of ten particles per minute.

5. The method of Claim 1, wherein cleaning the upper chamber comprises cycle purging hot gas through the upper chamber with a hot gas recirculating system.

6. The method of Claim 5, and further comprising coupling the hot gas recirculating system to a mobile cart, and wherein the hot gas is nitrogen.

7. The method of Claim 6, and further comprising:

coupling a vacuum source to the mobile cart and operatively coupling the vacuum source to the upper chamber;

coupling a leak rate testing source to the mobile cart and operatively coupling the leak rate testing source to the upper chamber; and

coupling a particle count testing source to the mobile cart and operatively coupling the particle count testing source to the upper chamber.

8. The method of Claim 1, further comprising holding the upper chamber under a vacuum until the upper chamber is coupled to the lower chamber.

9. The method of Claim 1, wherein processing at least one semiconductor wafer in a processing chamber comprises plasma etching.

10. A method for preconditioning a semiconductor processing chamber, comprising:

decoupling an upper chamber from a lower chamber, the upper chamber and lower chamber forming the semiconductor processing chamber when coupled together;

placing the upper chamber under a vacuum;

cycle purging hot nitrogen gas through the upper chamber with a hot gas recirculating system;

determining that a leak rate and a particle count for the upper chamber meet predetermined criteria; and

coupling the upper chamber to the lower chamber.

11. The method of Claim 10, wherein the leak rate is a maximum of one millitorr per minute.

12. The method of Claim 10, wherein the particle count is a maximum of ten particles per minute.

13. The method of Claim 10, wherein cycle purging hot nitrogen gas through the upper chamber with a hot gas recirculating system comprises coupling the hot gas recirculating system to a mobile cart.

14. The method of Claim 13, and further comprising:

coupling a vacuum source to the mobile cart and operatively coupling the vacuum source to the upper chamber;

coupling a leak rate testing source to the mobile cart and operatively coupling the leak rate testing source to the upper chamber; and

coupling a particle count testing source to the mobile cart and operatively coupling the particle count testing source to the upper chamber.

15. The method of Claim 10, further comprising holding the upper chamber under a vacuum until the upper chamber is coupled to the lower chamber.

16. A mobile system for preconditioning a semiconductor processing chamber having an upper chamber and a lower chamber, comprising:

a mobile cart;

a hot gas recirculating system coupled to the mobile cart and adapted to couple to the upper chamber;

a vacuum source coupled to the cart and adapted to couple to the upper chamber;

a leak rate testing source coupled to the cart and adapted to couple to the upper chamber; and

a particle count testing source coupled to the cart and adapted to couple to the upper chamber.

17. The system of Claim 16, wherein the mobile cart comprises:

a base; and

a support plate coupled to the base for supporting the upper chamber of the processing chamber.

18. The system of Claim 17, and further comprising:

a vibration isolation system disposed between the base and the support plate;

at least one wheel coupled to the base;

at least one handle coupled to the base; and

a chamber cover coupled to the base.

19. The system of Claim 17, and further comprising a heating system coupled to the support plate for heating the upper chamber.

20. The system of Claim 16, wherein the hot gas recirculating system is operable to cycle purge hot nitrogen gas through the upper chamber.

21. The system of Claim 20, and wherein the hot gas recirculating system comprises:

an inlet valve operable to receive hot nitrogen gas;

an inlet bellows coupled to the inlet valve and operable to transport the hot nitrogen gas to the upper chamber;

an outlet bellows operatively coupled to the upper chamber and operable to transport the hot nitrogen gas away from the upper chamber; and

an outlet valve coupled to the outlet bellows and operable to relinquish the hot nitrogen gas.